

Amendments to the Specification:

Please replace the paragraph at page 1, from line 20 through page 2, line 16, with the following paragraph:

The present invention addresses the problem of making an endoscopic accessory readily joinable to a range of endoscope sizes that are commercially available from a variety of manufacturers. Endoscopic accessories may include such instruments as forceps, band ligators or suturing devices, among others. The devices generally mount to at least a small portion of the outside surface of an endoscope shaft. A common mechanism for attachment of the accessory to the endoscope is by frictional engagement. The accessory is provided with a proximal portion having a circular or semicircular cross-section capable of fitting over the cylindrical shaft of the endoscope. The diameter defined by the proximal end of the accessory is sized to provide a frictional engagement with the endoscope shaft surface. An elastic gasket or ring may additionally be inserted between the endoscope shaft and the accessory to promote frictional engagement. However, because there is no standardized endoscope size and different endoscope manufacturers make endoscopes of different diameters, ensuring ~~insuring~~ that the selected endoscope accessory will be sized appropriately to frictionally engage an endoscope can be problematic. This is especially so considering that the selected endoscope accessory may be manufactured by a different supplier than that of the endoscope. The present invention endeavors to provide a mounting adapter that will be usable with a variety of endoscopic accessories to provide a secure mounting to a variety of endoscope shaft sizes.



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Please replace the paragraph at page 4, from line 24 through line 26, with the following paragraph:

[[.]] It is another object of the invention to provide an endoscopic accessory mounting adapter kit that comprises a centering sleeve and a plurality of collars of different sizes corresponding to different size ranges of endoscopes.

Please replace the paragraph at page 6, from line 3 through line 19, with the following paragraph:

The adaptor components fit into a bore 20 of an endoscopic accessory 12, as shown in the sectional illustrations of FIGS. 3 and 4A. The components are preferably inserted into the bore 20 of the accessory prior to mounting on an endoscope 26 but alternatively may be configured to be placed on the endoscope shaft first with the accessory later being loaded over them. To assemble the adaptor with an accessory, the centering sleeve 15 first is inserted through the proximal end 13 of the bore 20 of the accessory 12, with fingers 16 and 18 pointing distally. The centering sleeve 15 is pushed to distal end 22 of the accessory bore so that support fingers 18 can engage an inner lip 24 formed around the distal edge of the bore 20, as shown as shown in FIGS. 3, 4A and 5A. The collar 14 ~~12~~ is then fit into the proximal end of the accessory bore. Depending on the length of the accessory the centering sleeve and collar may not be in contact with each other when assembled in the bore of the accessory. As shown in the examples of FIGS 3, 4A and 4B, the accessory is longer than the combined length of the centering sleeve and the collar, thus the collar and sleeve are not in contact when assembled inside the bore. Rather, the centering sleeve serves to position the distal end of the accessory on the scope and the collar serves to position the proximal end of the accessory.

Please replace the paragraph at page 6, from line 25 through page 7, line 12, with the following paragraph:

The adaptor maintains the accessory of the device concentric with the endoscope shaft and holds it securely to the shaft by friction. It is contemplated that the adaptor could be used with any endoscope accessory that is cylindrical and that mounts over a portion of the distal end of an endoscope shaft. The adaptor components are held within the accessory 12 by friction. By way of example, for an accessory having a bore with an inside diameter of about .465 inch, the centering sleeve would be sized to have an outside diameter of about 0.460 inch and inside diameter of about 0.416 inch. For an accessory having a bore of a length on the order of 3.8cm the centering sleeve may be approximately 1.125 inches in length with a proximal portion 21 measuring about .645 inch of that length. ~~of~~ The centering sleeve is formed from a rigid but elastic material such as Ticona-Celecon M270 acetal copolymer, which permits the sleeve to be compressed slightly to be loaded into an accessory bore then expand to its original diameter after being released inside the bore. The expanding centering sleeve becomes engaged with the inside surface of the accessory bore. Additionally, the centering sleeve 15 may be provided with a longitudinal slot 30 along its length to provide the adaptor with additional radial flexibility in fitting different accessories and in accepting scopes of different sizes.

Please replace the paragraph at page 7, from line 13 through page 8, line 4, with the following paragraph:

When the accessory 12 and loaded adaptor 10 are placed over the distal end of an endoscope 26, differences between the scope outside diameter and the accessory inside diameter are absorbed by the adaptor by virtue of the resilient fingers. The centering sleeve 15, shown in FIGS 1-5B compensates for variations in scope diameters by the frictional engagement of several resilient fingers 16 with the endoscope shaft. The

resilient fingers are coextensive with the centering sleeve proximal portion 21 at their proximal ends 19 and extend distally and radially inward so that the distal ends 28 of the fingers define a smaller diameter than that of the centering sleeve proximal portion 21. The angle of inward deflection of the fingers may be on the order of about 7 degrees from the longitudinal axis of the sleeve and accessory bore. The distal ends of the fingers 28 terminate in radially inwardly extending lips 38 that catch the distal face 25 of the endoscope when the adaptor is fully seated onto the endoscope shaft. The lips may be formed to project at an angle of about 90 degrees to the longitudinal axis of the resilient fingers. As the assembled adaptor 10 and accessory 12 are slipped onto an endoscope shaft, the resilient fingers 16 are pushed radially outward from their relaxed position to the extent necessary to accept the endoscope shaft being used. For a centering sleeve of the dimensions described above, three resilient fingers of about .100 to .200 in width, relatively ~~relative~~ equally spaced around the circumference of the centering sleeve is believed to provide adequate engagement with the endoscope shaft. However more or fewer resilient fingers may be provided to best suit the particular application.

Please replace the paragraph at page 8, from line 5 through line 10, with the following paragraph:

When installed on an endoscope, the proximal portion 21 of the sleeve and fingers 16 become stressed radially outward slightly and, due to the elastic material of the centering sleeve, produce an opposing inward force on the endoscope shaft surface. The inwardly applied forces of the adaptor body and fingers provide frictional contact with the shaft to provide secure mounting and the forces provided ~~provide~~ by the equally spaced fingers maintain the adaptor and accessory concentric with the shaft.

Please replace the paragraph at page 8, from line 22 through page 9, line 8, with the following paragraph:

The user completes assembly of the adaptor 10 in the accessory 12 by choosing and inserting an appropriate size collar 14 for the diameter of the endoscope that will be used. The collar is formed from a flexible, pliable material that provides good frictional contact with the accessory and with the scope shaft to prevent relative movement between them. An example of a suitable material is Wacker 3003/50 LSR. A plurality of flexible collars 14 (FIG. 2D) each interchangeable with the centering sleeve 15 can be provided to the user in a kit 50 as shown in FIG. 7. Each collar has a center hole 32 with an inside diameter appropriate to fit tightly about a limited range of commercially available endoscope size ranges. For example, three collars of different center hole sizes may be provided to service a broad range of commercially available endoscope sizes. To illustrate a sample configuration: a small collar having a center hole of approximately .277 inch in diameter would be used with scopes ranging from ~~from~~ 8.5 mm to 9.3 mm in diameter; a medium collar with a center hole of approximately .380 inch would service scopes of 9.3 mm to 10.2 mm in diameter; and a large collar with a center hole of .405 inch in diameter would be used to endoscopes of 10.2 mm to 10.8 mm in diameter.

Please replace the paragraph at page 9, from line 25 through page 10, line 2, with the following paragraph:

The flange 36 is sufficiently large to become abutted against the accessory 12 ~~20~~ when the insert portion is fully inserted into the bore 20. The flange prevents the collar from being dragged into the bore due to frictional engagement of the advancing endoscope surface with the center hole 32. A cutout 35 may be formed through a small portion of the collar flange to accommodate passage of control cables 44 ~~42~~ that may extend longitudinally along the exterior of the endoscope 26 to operate the accessory 12.